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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/694,679	10/28/2003	Richard Louis Goin	2003-0168.02 (58521.US/46)	3920
21972	7590	12/15/2005	EXAMINER	
LEXMARK INTERNATIONAL, INC. INTELLECTUAL PROPERTY LAW DEPARTMENT 740 WEST NEW CIRCLE ROAD BLDG. 082-1 LEXINGTON, KY 40550-0999			STEPHENS, JUANITA DIONNE	
			ART UNIT	PAPER NUMBER
			2853	

DATE MAILED: 12/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/694,679

Applicant(s)

GOIN ET AL.

Examiner

Juanita D. Stephens

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– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on Amendment filed 9/15/2005.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 and 17-23 is/are pending in the application.
- 4a) Of the above claim(s) 16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 17-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10/28/2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

**Claims 10-15 cancelled.**

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4, 7-9, 17-19, and 22-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Courian et al. (US 6,286,941 B1).

Courian et al. discloses an ink jet printhead (Fig. 7) for an ink jet printer, comprising: **1)** a semiconductor substrate (60) containing ink ejection devices, **2)** a thick film layer (barrier layer 62) attached to the substrate and **3)** a nozzle plate (48) attached to the thick film layer, the nozzle plate containing a plurality of ink ejection nozzles (84) corresponding to the ink ejection devices, and the printhead containing flow features (grooves 64, chamber 74, plenum 78 and pinch point 80) having a height dimension and a width dimension formed therein for flow of ink to the plurality of ink ejection devices (col 7, lns 6-10) for ejection through the nozzles, wherein at least a portion of the flow feature dimension for at least one of the ejection devices is formed in both the thick film layer and laser ablated in the nozzle pate (col 7, ln 62), and wherein the thick film layer contained at least 12% of the flow feature dimensions (as shown in Fig. 7), **4)** wherein the flow features include an ink chamber (74) and an ink flow channel (col 7, lns 6-10) in flow communication with the

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ink chamber, **5**) wherein the printhead comprises substantially all of the flow features formed in both the nozzle plate and thick film layer (as shown in Fig. 7), **6**) wherein the nozzle plate has a thickness ranging from about 25 to about 70 microns (col 7, Ins 17-18) (2 mil converts to 50.80 micron ( $\mu$  or  $\mu$ )), **7**) wherein the flow features have a height dimension ranging from about 5 to about 30 microns (col 8, Ins 47-50) (25 micrometre ( $\mu$ m) converts to 25.00 micron ( $\mu$  or  $\mu$ )), **8**) wherein about 20 to about 80% of the flow features height dimension is formed in the nozzle plate (as shown in Fig. 7), **9**) wherein the flow features laser ablated in the nozzle plate have at least two different height dimensions (as shown in Fig. 7), and **10**) wherein the thick film layer have first portions of ink flow features formed therein (chamber 74, plenum 78 and pinch point 80), and the nozzle plate have second portions of ink flow features (grooves 64) formed therein by laser ablation (col 7, In 62), and wherein the first portion are at least 12% of a total of the first and second portions (as shown in Fig. 7).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 5 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Courian et al. (US 6,286,941 B1) in view of Murthy et al. (US 6,024,440).

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Courian et al. discloses the claimed invention, with the exception of 1) wherein the ink ejection nozzles have a bore length ranging from about 20 to about 65 microns (recited in claims 5 and 20). Murthy et al. at least teaches wherein the ink ejection nozzles have a bore length ranging from about 20 to about 65 microns (col 5, lns 40-41). It would have been obvious at the time the invention was made to a person having ordinary skill in the ink jet art to modify Courian et al. with the bore length as taught to be old by Murthy et al. for the purpose of increasing print quality.

5. Claims 6 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Courian et al. (US 6,286,941 B1).

Courian et al. at teaches the claimed invention, with the exception of wherein the thick film layer has a thickness ranging from about 5 to about 15 microns (recited in claims 6 and 21). Courian et al. at least teaches a thick film layer (62) is approximately 0.75 to 1 mil thick (.75 mil converts to 19.05 micron ( $\mu$  or  $\mu$ )). It would have been obvious to one having ordinary skill in the ink jet art at the time the invention was made to provide Courian et al. with the specified thick film thickness ranging from about 5 to about 15 micron, since it has been held that where the general condition of a claim are discloses in the prior art, and discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

### **Comments**

6. The Examiner inadvertently omitted claim 16 in the restriction of Group II in the previous office action. Claim 16 is therefore, restricted for the same reasons as given with respect to Group II. Therefore, claim 16 should be cancelled in the next response.

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***Response to Arguments***

7. Applicant's arguments with respect to claims 1-9, and 17-23 have been considered but are moot in view of the new ground(s) of rejection.

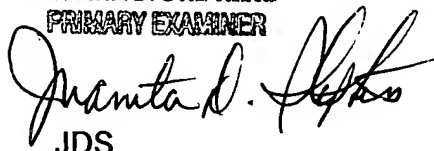
**Contact Information**

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juanita D. Stephens whose telephone number is (571) 272-2153. The examiner can normally be reached on Flex.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JUANITA D. STEPHENS  
PRIMARY EXAMINER



JDS

December 12, 2005

Juanita D. Stephens  
Primary Examiner  
Art Unit 2853